International Journal of Surgery Case Reports 24 (2016) 1–3

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Spontaneous infarction of fibroadenoma of breast—A case report with literature review

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ARTICLE INFO

Article history:
Received 10 March 2016
Received in revised form 24 April 2016
Accepted 25 April 2016
Available online 30 April 2016

Keywords:
Spontaneous
Infarction
Fibroadenoma
Tumor

ABSTRACT

INTRODUCTION: Infarction of breast fibroadenoma is a very rare complication which is either spontaneous or secondary to trauma. It poses a diagnostic dilemma of inflammatory carcinoma. We report a case of spontaneous infarction of fibroadenoma with different clinical presentation.
CASE REPORT: A 26-year-old female presented with right breast lump with sudden increase in size for 2 week duration. On examination, well defined, irregular lump measuring 6 × 3 cm and firm to hard in consistency was found. The clinical diagnosis of benin fibroadenoma of the breast was made. Ultrasound confirmed the diagnosis. biopsy was planned. Macroscopical and microscopical examination showed pictures consistent with spontaneous infarction of benign fibroadenoma of breast.
DISCUSSION: Fibroadenomas are the most common benign tumor of breast among female gender. Spontaneous infarction within fibroadenoma is a very rare. To our knowledge, only 33 cases have been reported in literatures.
CONCLUSION: Spontaneous infarction of the fibroadenoma is a benign condition of the breast with features either inflammatory carcinoma or the same presentation of benign fibroadenoma.

1. Introduction

Fibroadenoma is a relatively common benign tumor of the stroma and epithelium of the terminal duct lobular unit. Secondary changes may occur which include calcification, ossification, hyalinization, myxoid and apocrine squamous metaplasia [1]. Infarction of breast fibroadenoma is a very rare complication which is either spontaneous fine needle aspiration procedure or trauma [2]. Spontaneous infarction occurs mostly during pregnancy or lactation. This complication poses a diagnostic dilemma of inflammatory diseases and inflammatory carcinoma due to their similarities both in clinical and cytological features [3–5]. Herein we report a case of spontaneous infarction of fibroadenoma of breast which had clinical and diagnostic characteristics different from what are reported with brief literature review.

2. Case report

A 26-yearold female, presented to surgical private clinic with right breast lump with sudden increase in size for 2 week duration. On examination, well defined, irregular lump measuring 6 × 3 cm and firm to hard in consistency, was found. The other breast was normal. Axillary lymph nodes were not palpable. The clinical diagnosis of benin fibroadenoma of the breast was made. Ultrasound confirmed the diagnosis. Excision biopsy was planned. Macroscopical examination showed irregular soft mass with grey-yellow color measuring 6 × 3 × 3 cm. Cut surface had brown color with hemorrhagic area (Fig. 1). Microscopically, there was well defined nodule with evenly spaced acini and ducts associated with areas of extensive hemorrhage and ischemic necrosis of the center with fibroblastic and granulation tissue enclosing glands, picture characteristic for infarction of breast fibroadenoma (Fig. 2). confirmed by 2 independent [6].

3. Discussion

Fibroadenomas are the most common benign tumor of breast among female constituting about one-third of all female benign breast lesions. The peak incidence of is the second and third of life although it may occur any age [1]. Spontaneous infarction within fibroadenoma is a very rare complication of benign breast. To our knowledge, only 33 cases have been reported in literatures [2–5,7,8].

In 1949, Delaure and Redon were the first to diagnose spontaneous infarction in fibroadenoma in young [2,3]. The most common clinical manifestation is a painful breast mass; other presentations

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http://dx.doi.org/10.1016/j.ijscr.2016.04.040

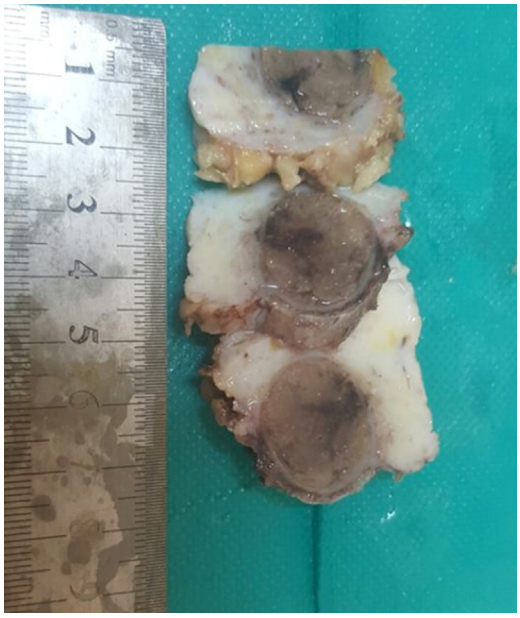

Fig. 1. Cut surface shows brown color with hemorrhagic area.

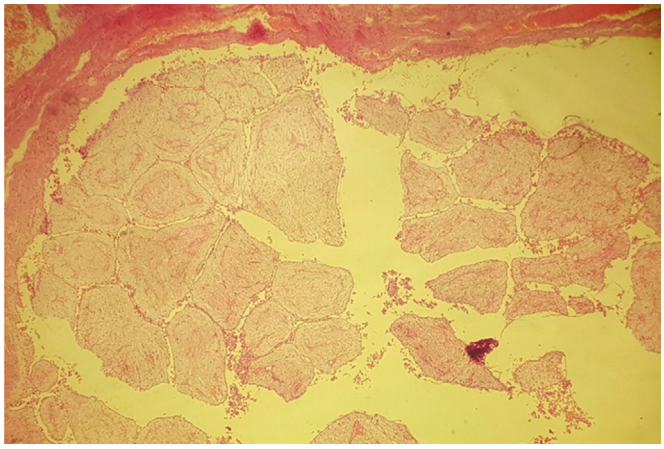

Fig. 2. Microscopical examination: Well defined nodule with evenly spaced acini and ducts associated with areas of extensive hemorrhage and ischemic necrosis).

are lump with irregular margins, fixity to underlying structures, nipple discharge, skin tethering, and axillary lymphadenopathy. These features lead to the clinical misdiagnosis of an inflammatory or a neoplastic condition [9–11]. That is why almost all cases of spontaneous infarction of breast fibroadenoma have been misdiagnosed initially as a case of carcinoma [12]. Although the current patient presented with painful breast mass, the clinical pictures with professional diagnosis of benign fibroadenoma. This kind of presentation makes the current patient unique among reported cases.

There are several theories behind the pathogenesis of infarction of fibroadenoma like the trauma and fine needle aspiration which cause thrombosis of vessels and infarction. Trauma induced infarction are also noted in other organs like lymphnodes, thyroid, and salivary glands [4,5]. Spontaneous infarction (without obvious) occurs frequently during third trimester of pregnancy and lactation. This may be explained by physiological conditions in which there may be ischemia in hyperplastic tumor tissue. Torsion and subsequent ischemia of the mobile mass is another theory hypothesized by few authors [2].

In this case, inciting insults which may result in infarction could not be found; hence it was diagnosed as spontaneous infarction.

The commonest recommended investigation followed for breast massess is FNAC [2,10]. The predominant microscopical features of infarction in a fibroadenoma are several singly scattered round to oval cells which do not have any atypical features, many ghost-like epithelial cells in a necrotic background. In this was not performed as the patient refused the investigation and preferred excisional biopsy.

In malignancy, a confirmation should be given only when necrosis and also viable cells with features of nuclear atypia, nuclear irregularities, prominent nucleoli and high mitosis. If in cases of suspicion, guarded report with suggestion of re-sampling is necessary [10]. Another common differential diagnosis is tuberculous granulomatous mastitis in our locality but its differentiation is possible by the presence of epithelioid cell granulomas, multinucleated giant cells, lymphocytes and by ZN stain of AFB which help in successful diagnosis [2].

Other is duct ectasia, but it could be diagnosed clinically by presence of subareolar cord like mass [2,10].

Histopathological examination is the gold standard investigation for diagnosis of infarction of fibroadenoma in which there is abundant areas of ischemic necrosis, haemorrhage with partial or no retain of the original architecture of the fibroadenoma with no inflammatory or atypical cells. The histopathological examination of the specimen was conclusive with spontaneous infarction of the fibroadenoma and this finding was inconsistent with so a second look by independent pathologist was and the diagnosis of infracted fibroadenoma was confirmed. Management by local excision is adequate and mastectomy should not be performed without histological confirmation of malignancy [2,3–5,10].

4. Conclusion

Spontaneous infarction of a fibroadenoma is a benign condition of the breast with features either inflammatory carcinoma or the same of benign fibroadenoma. It is very rare and may present with diagnostic dilemma for clinician, hence diligent search and care is necessary during the diagnosis of breast lump.

Conflict of interest

There is no conflict of interest to be declared.

Author contribution

Abdulwahid M. Salih: Surgeon performed the operation and follow up.

Fahmi H. Kakamad: writing the manuscript and follow up.

Consent

Consent has been taken

Funding

No source of funding.

Guarantor

Fahmi Hussein kakamad

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